Format No: CP/TF/01

## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-02-27-04** **Date: 02-03-18** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 27-02-18 |
| **Sample ID No** | : | 2018-02-27-04 /02(b) |
| **Sample Type/ Size** | : | 20mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 27-02-18 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:**

**Total weight taken** : 5000 grams

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 40 mm | 0 | 0 | 0 | 100 | 100 |
| 2 | 20 mm | 211 | 211 | 4.2 | 95.8 | 90-100 |
| 3 | 10 mm | 2894 | 3105 | 62.1 | 37.9 | 25-55 |
| 4 | 4.75 mm | 1698 | 4803 | 96.1 | 3.9 | 0-10 |
| 5 | Pan | 197 | 5000 | 100 | 0 | – |

AE-1



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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2018-02-27-04** **Date: 02-03-18**

**Sample ID No** : 2018-02-27-04 /02(b)

### PHYSICAL PROPERTIES

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 10.1 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 12.3 | |
| 3 | Specific Gravity | 2.62 | _ |
| 4 | Bulk Density(Loose) (Kg/l) | 1.48 | _ |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.53 | _ |
| 6 | Water Absorption(%) | 0.18 | _ |
| 7 | Aggregate crushing Value(%) | 24.1 | Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface. |
| 8 | Aggregate Impact Value(%) | 23.9 | 30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface. |

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**R KARTHIK RECHAN**
Authorized Signature
**Quality Manager**


*End of Report*

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# TEST REPORT OF FINE AGGREGATE

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-02-27-04** **Date: 02-03-18** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 27-02-18 |
| **Sample ID No** | : | 2018-02-27-04 /03 |
| **Sample Type** | : | Fine Aggregate |
| **Reference to BIS codes** | : | IS 383 : 2016 (Specification for Coarse and fine Aggregates)<br>IS: 2386 :1963(Part - 1, 3) RA2012<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption |
| **Date of test** | : | 27-02-18 |
| **Total weight taken** | : | 1000 grams |

| Sl.no | Sieve Size | Weight Retained (gms) | Cumulative Weight Retained (gms) | % Cumulative Weight Retained | % Passing | Requirement as per IS 383:2016 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Grading Zone I | Grading Zone II | Grading Zone III | Grading Zone IV |
| 1 | 10 mm | 0 | 0 | 0.0 | 100.0 | 100 | 100 | 100 | 100 |
| 2 | 4.75 mm | 48 | 48 | 4.8 | 95.2 | 90-100 | 90-100 | 90-100 | 95-100 |
| 3 | 2.36 mm | 184 | 232 | 23.2 | 76.8 | 60-95 | 75-100 | 85-100 | 95-100 |
| 4 | 1.18 mm | 208 | 440 | 44.0 | 56.0 | 30-70 | 55-90 | 75-100 | 90-100 |
| 5 | 600 micron | 168 | 608 | 60.8 | 39.2 | 15-34 | 35-59 | 60-79 | 80-100 |
| 6 | 300 micron | 197 | 805 | 80.5 | 19.5 | 5-20 | 8-30 | 12-40 | 15-50 |
| 7 | 150 micron | 109 | 914 | 91.4 | 8.6 | 0-10 | 0-10 | 0-10 | 0-15 |
| 8 | Pan | 86 | 1000 | 100.0 | 0.0 | --- | --- | --- | --- |

**Result :The tested Sample Conforms to Grading Zone II**



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# TEST REPORT OF FINE AGGREGATE

**Lab ID** : **CP-2018-02-27-04** **Date: 02-03-18**

**Sample ID No** : 2018-02-27-04 /03

## PHYSICAL PROPERTIES

| Sl.no | Tests | Result | Requirements as per IS 383:2016 |
|---|---|---|---|
| 1 | Water Absorption(%) | 1.68 | – |
| 2 | Specific Gravity | 2.52 | – |
| 3 | Material finer than 75 micron(%) | 5.9 | Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10% |

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**Quality Manager**


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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-02-27-04** **Date: 02-03-18** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 27-02-18 |
| **Sample ID No** | : | 2018-02-27-04 /01 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 (Part 1,2 3,4,5, 6,11):1988<br>IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4<br>IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5<br>IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5<br>IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6 |
| **Date of test** | : | 28-02-18 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

| SLNo. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | Fineness by dry sieving (%) | 2.24 | – |
| 2 | Finess by Air permeablity method ($m^2$/kg,Min) | 273.6 | 225$m^2$/kg, Min |
| 3 | Density (gm/cc) | 3.13 | – |
| 4 | Standard Consistency (%) | 28.0% | Not specified |
| 5 | Initial Setting time | 175 minutes | Not less than 30 minutes |
| 6 | Final Setting time | 270 minutes | Not more than 600 minutes |
| 7 | Soundness (Le Chatelier's Method) | 1.5mm | Not more than 10 mm |

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Quality Manager



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## TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-02-27-04** **Date: 28-03-18** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 27-02-18 |
| **Sample ID No** | : | 2018-02-27-04 /01 |
| **Sample Type** | : | Birla Super 53grade |
| **Reference to BIS codes** | : | IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,<br>IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5<br>IS 4031 Part 6, Determination of Compressive Strength, Clause 6 |
| **Date of test** | : | 28-02-18 |
| **Environmental Conditions during test** | : | Temperature: 26°C<br>Humidity: 72% |

**Compressive Strength**

| SLNo. | Physical properties | Results | Requirement as per IS 12269: 2013 |
|---|---|---|---|
| 1 | 3 Days | 29.0N/mm$^2$ | Not less than 27 N/mm$^2$ |
| 2 | 7 Days | 38.5N/mm$^2$ | Not less than 37 N/mm$^2$ |
| 3 | 28 Days | 56.5N/mm$^2$ | Not less than 53 N/mm$^2$ |

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## TEST REPORT ON COARSE AGGREGATES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-02-27-04** **Date: 02-03-18** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample condition** | : | Satisfactory |
| **Date of Receipt** | : | 27-02-18 |
| **Sample ID No** | : | 2018-02-27-04 /02(a) |
| **Sample Type** | : | 40mm down size coarse aggregate |
| **Reference to BIS codes** | : | IS: 383:2016 (Specification for Coarse and fine Aggregates )<br>IS: 2386 :1963(Part - 1,3,4) RA2011<br>IS 2386 Part 1: Particle Size and Shape<br>IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption<br>IS 2386 Part 4: Mechanical Properties |
| **Date of test** | : | 27-02-18 |

**SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:**

**Total weight taken** : **15000** **grams**

| Sample No. | Sieve No. | Weight Retained in gms | Cumulative Weight Retained in gms | % Cumulative Weight Retained | % Passing | Required as per IS 383:2016 |
|---|---|---|---|---|---|---|
| 1 | 80 mm | 0 | 0 | 0.0 | 100 | 100 |
| 2 | 40 mm | 374 | 374 | 2.5 | 97.5 | 90-100 |
| 3 | 20 mm | 5728 | 6102 | 40.7 | 59.3 | 30-70 |
| 4 | 10 mm | 4773 | 10875 | 72.5 | 27.5 | 10-35 |
| 5 | 4.75 mm | 3464 | 14339 | 95.6 | 4.4 | 0-5 |
| 6 | Pan | 661 | 15000 | 100.0 | 0 | --- |



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## TEST REPORT ON COARSE AGGREGATES

**Lab ID** : **CP-2018-02-27-04** **Date: 02-03-18**

**Sample ID No** : 2018-02-27-04 /02(a)

**PHYSICAL PROPERTIES**

| Sl.no | Tests | Result | Requirements as per IS:383-2016 |
|---|---|---|---|
| 1 | Flakiness Index(%) | 10.9 | Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate |
| 2 | Elongation Index(%) | 12.6 | |
| 3 | Specific Gravity | 2.68 | – |
| 4 | Bulk Density(Loose) (Kg/l) | 1.53 | – |
| 5 | Bulk Density(Compacted) (Kg/l) | 1.57 | – |
| 6 | Water Absorption(%) | 0.2 | – |

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# TEST REPORT OF PRECAST COVER SLAB

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-03-05-01** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 05-03-18 |
| **Sample ID No** | : | 2018-03-05-01 /01 |
| **Sample Type /Size** | : | 100mm Thick Precast Cover Slab |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete |
| **Date of test** | : | 05/03/2018 |

**Date: 09-03-18**

| Sl. No. | Identification Mark | Diameter of the core | Height of the core | Weight of the core | Area | Failure Load | Core Compressive strength | Corrected Cylinder Compressive strength | Equivalent Cube Compressive strength |
|---|---|---|---|---|---|---|---|---|---|
| | | (mm) | (mm) | (kg) | (Sq.mm) | (KN) | ($N/mm^2$) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Cover Slab-1 | 75.52 | 100.42 | 1.355 | 4478 | 88.1 | 19.7 | 18.3 | 22.9 |
| 2 | Cover Slab-2 | 75.48 | 100.51 | 1.385 | 4474 | 83.7 | 18.7 | 17.4 | 21.7 |
| 3 | Cover Slab-3 | 75.52 | 100.52 | 1.348 | 4478 | 86.9 | 19.4 | 18.0 | 22.6 |

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# TEST REPORT OF PRECAST COVER SLAB

**Lab ID** : CP-2018-03-05-01 **Date: 09-03-18**

**Customer** : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

**Address** : Yelahanka Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division.

**Agency** : Technical Manager(West), KRIDL, BBMP, Bangalore.

**Customer's Reference** : BBMP/EE(YNK.D)/W.O/000116/2017-18

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 05-03-18

**Sample ID No** : 2018-03-05-01 /02

**Sample Type /Size** : 200mm Thick Precast Cover Slab

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete

**Date of test** : 05/03/2018

| Sl. No. | Identification Mark | Diameter of the core | Height of the core | Weight of the core | Area | Failure Load | Core Compressive strength | Corrected Cylinder Compressive strength | Equivalent Cube Compressive strength |
|---|---|---|---|---|---|---|---|---|---|
| | | (mm) | (mm) | (kg) | (Sq.mm) | (KN) | ($N/mm^2$) | ($N/mm^2$) | ($N/mm^2$) |
| 1 | Cover Slab-1 | 100.51 | 165.37 | 1.906 | 7933 | 139.9 | 17.6 | 16.4 | 20.5 |
| 2 | Cover Slab-2 | 100.52 | 165.41 | 1.915 | 7934 | 142.3 | 17.9 | 16.7 | 20.8 |
| 3 | Cover Slab-3 | 100.47 | 165.54 | 1.922 | 7926 | 147.5 | 18.6 | 17.3 | 21.6 |

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## TEST RESULTS OF STEEL

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-02-27-04** **Date: 01-03-18** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 27-02-18 |
| **Sample ID No** | : | 2018-02-27-04 /04 |
| **Sample Type** | : | Sunvik |
| **Reference to BIS codes** | : | IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012. |
| **Date of test:** | : | 28-02-18 |

| SLNo | Identification of sample | Grade of the sample | Diameter of the steel bar | Weight of the sample | Yield stress | Tensile strength | Elongation | Bend test | Rebend test |
|---|---|---|---|---|---|---|---|---|---|
| | | | (mm) | (kg/m) | (N/mm2) | (N/mm2) | (%) | | |
| 1 | Sunvik | Fe500 | 10 | 0.612 | 540 | 673 | 20.0% | Satisfactory | Satisfactory |
| 2 | Sunvik | Fe500 | 12 | 0.885 | 566 | 684 | 20.0% | Satisfactory | Satisfactory |

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# TEST REPORT OF CEMENT CONCRETE CUBES

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-03-12-04** **Date: 15/03/2018** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 12-03-18 |
| **Sample ID No** | : | 2018-03-12-04 /01 |
| **Customer ID** | : | Drain Concrete |
| **Sample Type /Size** | : | 150X150X150 mm |
| **Sample grade/Age** | : | M20 / 7 Days Compressive Strength |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| **Date of test** | : | 15/03/2018 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Concrete | M20 | 08/03/2018 | 15/03/2018 | 149.22 X 150.47 X 151.35 | 22453 | 8.105 | 392.9 | 17.5 | 17.6 |
| 2 | Drain Concrete | M20 | 08/03/2018 | 15/03/2018 | 148.65 X 150.44 X 151.23 | 22363 | 8.149 | 404.8 | 18.1 | |
| 3 | Drain Concrete | M20 | 08/03/2018 | 15/03/2018 | 149.87 X 149.65 X 151.33 | 22428 | 8.166 | 385.8 | 17.2 | |

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Samples will be disposed after 90 days from the date of issue of test certificate

CIVIL PRO Sig..... Date..... BANGALORE

**FOR CIVIL Pro.**
**R KARTHIK RECHAN**
Authorized Signatory
**Quality Manager**


****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : CP-2018-03-12-04 **Date: 05/04/2018**

**Customer** : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

**Address** : Yelahanka Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division.

**Agency** : Technical Manager(West), KRIDL, BBMP, Bangalore.

**Customer's Reference** : BBMP/EE(YNK.D)/W.O/000116/2017-18

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 12-03-18

**Sample ID No** : 2018-03-12-04 /02

**Customer ID** : Drain Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 28 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 05/04/2018

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Concrete | M20 | 08/03/2018 | 05/04/2018 | 149.88 X 151.33 X 151.28 | 22681 | 8.174 | 523.9 | 23.1 | 23.0 |
| 2 | Drain Concrete | M20 | 08/03/2018 | 05/04/2018 | 150.78 X 149.65 X 150.58 | 22564 | 8.198 | 507.7 | 22.5 | |
| 3 | Drain Concrete | M20 | 08/03/2018 | 05/04/2018 | 149.87 X 150.68 X 151.78 | 22582 | 8.165 | 528.4 | 23.4 | |

Note:
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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

**Lab ID** : CP-2018-03-12-04 **Date: 15/03/2018**

**Customer** : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

**Address** : Yelahanka Sub Division, BBMP, Bangalore.

**Project Name** : Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division.

**Agency** : Technical Manager(West), KRIDL, BBMP, Bangalore.

**Customer's Reference** : BBMP/EE(YNK.D)/W.O/000116/2017-18

**Source of Sample** : Sample supplied by Agency

**Sample Condition** : Satisfactory

**Date of Receipt** : 12-03-18

**Sample ID No** : 2018-03-12-04 /03

**Customer ID** : Drain Concrete

**Sample Type /Size** : 150X150X150 mm

**Sample grade/Age** : M20 / 7 Days Compressive Strength

**Reference to BIS codes** : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

**Date of test** : 15/03/2018

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Concrete | M20 | 08/03/2018 | 15/03/2018 | 150.22 X 150.21 X 150.20 | 22565 | 8.324 | 403.9 | 17.9 | 17.9 |
| 2 | Drain Concrete | M20 | 08/03/2018 | 15/03/2018 | 150.24 X 150.21 X 150.18 | 22568 | 8.315 | 401.7 | 17.8 | |
| 3 | Drain Concrete | M20 | 08/03/2018 | 15/03/2018 | 150.18 X 150.10 X 150.21 | 22542 | 8.268 | 408.0 | 18.1 | |

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**Quality Manager**



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Format No: CP/TF/01

# TEST REPORT OF CEMENT CONCRETE CUBES

Date: 05/04/2018

| | | |
|---|---|---|
| Lab ID | : | CP-2018-03-12-04 |
| Customer | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| Address | : | Yelahanka Sub Division, BBMP, Bangalore. |
| Project Name | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| Agency | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| Customer's Reference | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| Source of Sample | : | Sample supplied by Agency |
| Sample Condition | : | Satisfactory |
| Date of Receipt | : | 12-03-18 |
| Sample ID No | : | 2018-03-12-04 /04 |
| Customer ID | : | Drain Concrete |
| Sample Type /Size | : | 150X150X150 mm |
| Sample grade/Age | : | M20 / 28 Days Compressive Strength |
| Reference to BIS codes | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |

Date of test : 05/04/2018

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Concrete | M20 | 08/03/2018 | 05/04/2018 | 149.21 X 149.33 X 150.22 | 22282 | 8.145 | 523.6 | 23.5 | 23.2 |
| 2 | Drain Concrete | M20 | 08/03/2018 | 05/04/2018 | 149.65 X 150.27 X 150.44 | 22488 | 8.179 | 519.5 | 23.1 | |
| 3 | Drain Concrete | M20 | 08/03/2018 | 05/04/2018 | 150.46 X 150.47 X 150.68 | 22640 | 8.182 | 518.4 | 22.9 | |

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# TEST REPORT OF CEMENT CONCRETE CUBES

Date: 16/03/2018

| | | |
|---|---|---|
| Lab ID | : | CP-2018-03-12-04 |
| Customer | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. |
| Address | : | Yelahanka Sub Division, BBMP, Bangalore. |
| Project Name | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| Agency | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| Customer's Reference | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| Source of Sample | : | Sample supplied by Agency |
| Sample Condition | : | Satisfactory |
| Date of Receipt | : | 12-03-18 |
| Sample ID No | : | 2018-03-12-04 /05 |
| Customer ID | : | Drain Concrete |
| Sample Type /Size | : | 150X150X150 mm |
| Sample grade/Age | : | M20 / 7 Days Compressive Strength |
| Reference to BIS codes | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl 5 |
| Date of test | : | 16/03/2018 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Concrete | M20 | 09/03/2018 | 16/03/2018 | 149.85 X 150.33 X 149.85 | 22527 | 8.201 | 389.7 | 17.3 | 17.4 |
| 2 | Drain Concrete | M20 | 09/03/2018 | 16/03/2018 | 150.33 X 149.88 X 151.21 | 22531 | 8.198 | 396.6 | 17.6 | |
| 3 | Drain Concrete | M20 | 09/03/2018 | 16/03/2018 | 149.63 X 150.48 X 149.35 | 22516 | 8.246 | 391.8 | 17.4 | |

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Format No: CP/TF/01

| | | |
|---|---|---|
| **Lab ID** | : | **CP-2018-03-12-04** |
| **Customer** | : | Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore. **Date: 06/04/2018** |
| **Address** | : | Yelahanka Sub Division, BBMP, Bangalore. |
| **Project Name** | : | Improvements to roads and drains at surabhi layout and Church road Surrounding areas in ward No.01 of Yelahanka Sub Division. |
| **Agency** | : | Technical Manager(West), KRIDL, BBMP, Bangalore. |
| **Customer's Reference** | : | BBMP/EE(YNK.D)/W.O/000116/2017-18 |
| **Source of Sample** | : | Sample supplied by Agency |
| **Sample Condition** | : | Satisfactory |
| **Date of Receipt** | : | 12-03-18 |
| **Sample ID No** | : | 2018-03-12-04 /06 |
| **Customer ID** | : | Drain Concrete |
| **Sample Type /Size** | : | 150X150X150 mm |
| **Sample grade/Age** | : | M20 / 28 Days Compressive Strength |
| **Reference to BIS codes** | : | IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5 |
| **Date of test** | : | 06/04/2018 |

| Sl. No. | Identification Mark | Grade of concrete | Date of Casting | Date of Testing | Dimension of the Specimen (mm) | Cross sectional area (Sq.mm) | Weight of the sample (kg) | Failure Load (KN) | Compressive strength ($N/mm^2$) | Average Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Drain Concrete | M20 | 09/03/2018 | 06/04/2018 | 151.33 X 150.78 X 151.46 | 22818 | 8.020 | 522.5 | 22.9 | 23.0 |
| 2 | Drain Concrete | M20 | 09/03/2018 | 06/04/2018 | 151.23 X 150.48 X 149.81 | 22757 | 8.245 | 525.7 | 23.1 | |
| 3 | Drain Concrete | M20 | 09/03/2018 | 06/04/2018 | 151.39 X 151.42 X 150.08 | 22923 | 8.139 | 524.9 | 22.9 | |

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